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Land tenure inequality, harvests, and rural conflict. Evidence from Southern Spain in the 1930s.

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Abstract

This paper analyses rural conflict in one of the most volatile areas of interwar Europe, the latifundia regions of the South of Spain. The historical and economics literature argues that rural conflict was a bottom-up, spontaneous response of landless peasants to unemployment, bad harvests, land ownership inequality, changes in property rights, and the lack of enforcement of pro-worker legislation. A second generation of historical studies has focused on democratization and concomitant changes in collective bargaining and labor market institutions. Was conflict caused by structural factors like poverty, inequality or unemployment or was conflict an endogenous response to political change? This paper analyzes the pattern of conflict in three Andalusian provinces (Córdoba, Jaén and Seville) in the early 1930s to argue that the timing and geographical distribution of conflict is consistent with a wave of mobilization linked to greater political opportunities favored by lower repression, pro-worker institutional change, and labor market intervention. Time-series and cross-sectional variation in levels of rural conflict suggest conflict was not a spontaneous response to dismal living standards and inequality. Rather, it emerged in large, fast growing towns of Andalusia and was mediated by the strategic interaction of authorities and experienced rural unions. The instances of rural conflict analyzed here suggest it is very difficult for new democratic governments in agrarian societies to stave rural conflict off with labor-friendly intervention. It is often argued that conflict precedes political and institutional change, but it is shown here that conflict can emerge abruptly as a response to those changes.

Keywords: inequality, rural conflict, unemployment, interwar Europe, Spanish Civil War (1931-1936).

JEL Classification: J43, J52, N34, N54, O13, Q15

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ABSTRACT

This paper analyses rural conflict in one of the most volatile areas of interwar Europe, the latifundia regions of the South of Spain. The historical and economics literature argues that rural conflict was a bottom-up, spontaneous response of landless peasants to unemployment, bad harvests, land ownership inequality, changes in property rights, and the lack of enforcement of pro-worker legislation. A second generation of historical studies has focused on democratization and concomitant changes in collective bargaining and labor market institutions. Was conflict caused by structural factors like poverty, inequality or unemployment or was conflict an endogenous response to political change? This paper analyzes the pattern of conflict in in three Andalusian provinces (Córdoba, Jaén and Seville) in the early 1930s to argue that the timing and geographical distribution of conflict is consistent with a wave of mobilization linked to greater political opportunities favored by lower repression, pro-worker institutional change, and labor market intervention. Time-series and cross-sectional variation in levels of rural conflict suggest conflict was not a spontaneous response to dismal living standards and inequality. Rather, it emerged in large, fast growing towns of Andalusia and was mediated by the strategic interaction of authorities and experienced rural unions. The instances of rural conflict analyzed here suggest it is very difficult for new democratic governments in agrarian societies to stave rural conflict off with labor-friendly intervention. It is often argued that conflict precedes political and institutional change, but it is shown here that conflict can emerge abruptly as a response to those changes.

1. Introduction

Historical narratives on the causes of the Spanish Civil War (1936-1939) root the causes of the war in the escalation of conflict and violence that marked the Second Republic (1931-1936). One of the motivations of the land reform law of 1932 was mitigating the potential revolutionary threat of landless laborers. In European history, rural unrest or open peasant rebellion have been linked to revolution and civil war, especially when peasant mobilization revolves around the issue of land ownership (Skocpol, 1979: 112; Moore, 1967; Acemoglu and Robinson, 2005). Hegemonic accounts of political transitions have considered democratic and popular threats to landowning elites as the main cause of authoritarian reaction and democratic breakdown in interwar Europe (Gerschenkron, 1943; Luebbert, 1991).

During the Second Republic, Spain witnessed one of the fastest processes of peasant mobilization in interwar Europe. In 1931-1932, peasants represented between a third and a half of the booming membership of the anarcho-syndicalist National Confederation of Labor (henceforth, CNT) and the socialist General Workers' Union (henceforth, UGT) from near zero membership levels in the late 1920s. In addition, striker rates in 1933 peaked to one of the highest levels in interwar Europe, with rural workers representing about a third of strikers. The whole period is infamous by the unprecedented levels of violence, with anarchist rural riots in 1931, 1932, or 1933, episodes of land seizures in 1933 and 1936 and tragic clashes between rebels and the police. As the most prominent historian of agrarian conflict in 1930s Spain pithily put it, there was "latent and spontaneous Civil War in the countryside" during the 2nd Republic (Malefakis, 1970: 306).

Mainstream narratives of the causes of rural conflict in 1930s Spain have focused especially on the South of Spain, where inequality, landlessness and poverty were endemic. There, it is argued, conflict was particularly acrimonious given the privileged position of the landowning elites pitted against a mass of desperately poor, illiterate landless laborers. Classic accounts of rural unrest in interwar Europe depict unequal power relations and exploitation by the owners of land as the pre-conditions for rural polarization and conflict. An exogenous shock like the First World War or the Great Depression brought such an unstable system to conflict and collapse (for example, Snowden, 1986: 33-34; Snowden, 1989: 150-57). In the case of Spain, employers' boycott practices, poor wheat harvests and a reduction in agricultural output caused unemployment and falling living standards, resulting in conflict and polarization.

However, narratives emphasizing exploitation and falling living standards do not square with the existing evidence: inequality fell quickly in the period (Prados de la Escosura, 2008), poor wheat harvests in 1931 and 1933 alternated with exceptionally good harvests in 1932 and 1934, olive-growing areas also experienced high levels of conflict and did not experience similar levels of output volatility, seasonal unemployment was not a new phenomenon in rural labor markets in dry-farming areas of Spain, and real wages in agricultural labor markets held up pretty well in the 1930s (Domenech, 2013). This paper aims at subverting mainstream narratives of rural conflict during the 2nd Republic by analyzing in detail the pattern of conflicts in Andalusia, concentrating on the very active provinces of Córdoba, Jaén and Seville (see map 1).

I approach the problem of rural conflict in Spain from a regional perspective because official, aggregate data on conflict are incomplete and biased for the period. The paucity of evidence has led several historians to try to reconstruct detailed local or micro-regional histories of protest (among other examples, Mintz, 1994; del Rey, 2008). However, this strategy, while providing a privileged microscopic view of the deployment of local collective action, is prone to large selection biases. In general, towns are selected because conflict was more intense there than in other towns or because the town was special for other reasons. In order to avoid selection biases, this paper takes the middle way of a detailed macro-regional perspective, allowing me to go beyond the special cases while keeping the necessary details about conflicts and their context.

INSERT MAP 1

Using a new panel data set of local rural conflict in three provinces of the South of Spain, I exploit the local distribution of conflict and its timing to identify the factors driving rural conflict during the Second Republic. My explanation stresses the “political opportunities” window (McAdam, Tarrow, and Tilly, 2001; Goodwin, 2001; Goodwin and Jasper, 2011; Tilly, 1964, 1986) in which the focus is in the interplay between actors, the state and local and national political institutions. The main conclusion of the paper is that the pattern of conflict analyzed here is consistent with “polity process” explanations and not with “grievance-based” explanations. In 1930s Spain, like in other studies of peasant rebellion, peasant conflict was obviously affected by inequality and poverty, but did *not* closely correlate with these variables (Rudé and Hobsbawm, 1973; Markoff, 1996). Conflict was linked instead to the

existence of active labor markets of rural laborers, previous collective action, access to markets and information and proximity to large urban centres. Results found here would be consistent with narratives of conflict escalation linked to drastic political and institutional changes, the wane of repression, and the promotion of collective bargaining. The explosion of rural conflicts, especially strikes, was almost inevitable and did not require substantial changes in relative prices or in living standards. The intensity of collective misery did not explain explosive rural conflict in 1930s Spain.

Almost 40 years ago, in an ambitious comparative research project on democratic breakdown in the 20th century, Juan Linz and Alfred Stepan stressed the preeminence of political factors and processes over structural and economic factors to explain polarization and ultimate breakdown of democratic regimes in interwar Europe and Latin America (Linz, 1978; Linz and Stepan, 1994; see as well Payne, 1972). Linz's superb and still unsurpassed analysis of political elites' strategic decisions during the Second Republic left, however, one open question: through what mechanisms do elites' decisions translate into non-elite mobilization and polarization? (Linz, 1994). This paper is a modest attempt to open a new research agenda on the determinants of bottom-up participation in collective action in 1930s Spain.

2. Literature review

The economics of conflict and violence hypothesize a bottom-up, spontaneous response to conflict, paying little attention to the collective organization of conflict. Thus Paul Collier argues that the motivation of individuals to participate in conflict depends on the opportunity cost of violence, which in turn is determined by incomes

coming from peaceful, private activities (Collier, 2009: 133). When incomes are low, or falling, or unemployment is on the rise, the motivation to engage in protest or violence increases (Do and Iyer, 2010: 735).

More recently, in the relatively recent turn to find plausible sources of exogenous variation in income, volatile rainfall and harvests have been linked to rural conflict. Thus for example, a recent article by Hidalgo, Richardson and Naidu (2010) argues poor harvests caused by rainfall shocks increased the likelihood of land invasions in Brazil. An even more extreme version of this hypothesis, Miguel *et al.* claim negative rainfall shocks increased the likelihood of civil wars in Africa (Miguel *et al.*, 2004). In countries like Rwanda, Malthusian pressures and increasing competition for land led to social crisis and violence (André and Platteau, 1998). In many violent places of the developing world, the existence of a large pool of unemployed workers has been considered a typical trigger of conflict (a critical view in Berman, Felter, Shapiro, 2011).

Mainstream narratives of the evolution of rural conflict in the Second Republic in Spain have emphasized spontaneous processes of mobilization caused by poverty, unemployment and inequality. Thus for example Paul Preston argued “agrarian violence was a constant feature of the Republic” and that “based on the crippling poverty of rural laborers, it was kept at boiling point by the CNT” (Preston, 2006: 55). In his view, “throughout 1932, the FNTT (*Federación Nacional de Trabajadores de la Tierra*, National Federation of Agricultural Workers) worked hard to contain the growing desperation of the rank and file” (Preston, 2006: 57). Helen Graham, considered “the thwarting of popular aspirations for social change produced

disillusion (...) among the landless poor and unemployed of the rural south exasperated by the durability of the old relations of power (Graham, 2005: 14). Similarly, Stanley Payne argued that in the spring of 1934, “the most active role in labor affairs was taken by the UGT’s farmworker federation, the FNTT, centered in Extremadura and Andalusia.” FNTT strength was explained by the fact that “whereas conditions for urban workers had deteriorated only slightly, there was a growing sense of desperation among rural laborers, who had suffered an increase in more than 50 per cent in unemployment during the past two years”(Payne, 2006: 60-61).

Some have argued unemployment responded to mechanization and the intensification of production methods, but James Simpson’s calculations showed labor supply did not outstrip labor demand in Andalusia in the period 1886-1935, especially because agricultural land increased faster than population in the period and mechanization was slow (Simpson, 1992: 16). But Carmona and Simpson (2003) focused on changes in the demand for different types of workers with agrarian development in the early 20th century, with (slow) mechanization and output expansion favoring workers with permanent contracts, tenants, and the gangs of temporary migrants at the expense of the local pool of casual laborers (Carmona and Simpson, 2003: 112-13). In addition, short run changes in labor demand were perhaps more important. The casual proletariat did not have ways of diversifying away the risk of poor harvests and struggled with seasonal income variation (Brenan, 2008: 120). If the harvest was poor, labor demand fell and greater underemployment or unemployment followed. Unemployed laborers did not have access to financial services to smooth income shocks and there were more restrictions to temporary migrations in the 1930s (Domenech, 2013).

Another set of explanations for conflict single out the role of diffuse property rights. Typically in the New Institutional Economics vein, diffuse property rights cause the rise of conflict, which happens when property rights to land and land reform clash, typically when different groups have competing claims to the land (Alston, Harris, Mueller, 2012; André and Platteau, 1998). In other cases, disputes over usage of common land can lead to violence (Villarreal, 2004). In this view, conflict is more typical of isolated and rugged areas in which the state is weak because it is more difficult to enforce the rule of law and contracts (Fearon and Laitin, 2003; Herreros and Criado, 2009).

In the case of Spain, it is natural to think that the Land Reform law of 1932, the most ambitious legislative piece of the period, must have led to the spread of conflict in areas with large estates. For example, 42 per cent of all the area of the province of Seville and a third of the province of Córdoba was earmarked for confiscation (Pascual Cevallos, 1983: 33; López Ontiveros and Mata, 1993: 35). Julián Casanovas writes “the owners’ resistance to Republican legislation intensified conflict. This hostility could be seen to be particularly acrimonious in areas with large estates” (Casanova, 2010: 49).

Sociologists and political scientists have argued that frustration-aggression theories of conflict lack predictive power (Béteille, 1979: 188). Inequality, unemployment and underemployment, crises, and exploitation are the norm, not the exception, in most developing countries and in historical societies, yet conflict only erupts in very special historical circumstances. Several theorists have stressed the role

of expectations and contagion in large social processes, given the obvious non-linearity of most aggregate social processes (Biggs, 2002, 2005; Freeman, 1998). In this framework, small changes in material conditions or in political opportunities can lead to large changes in collective participation.

Because collective action is difficult and mobilization is rare, authors like Eric Wolf or Theda Skocpol have stressed the importance of organizations and their capacity for autonomous collective action (Wolf, 1999: 115). In some cases, autonomy appears out of historical accident, as it is for example the case when there are institutions that govern common resources (Skocpol, 1979: 116). The more solid the networks of solidarity among the peasants, the easier it is to organize collective action. Although landowners traditionally controlled the administration of most of the towns in the areas studied here before the 1930s (Tusell, 1976: 330-1), there is indeed some evident vibrancy in the history of collective action in some areas of Andalusia (Carrión, 1975: 57-59). In his classic book, Juan Díaz del Moral studied the spread of anarchism in the last quarter of the 19th century and the upheavals of the early 1870s, early 1890s and the early 1900s that preceded the so-called Bolshevik triennium of 1918-1920 (Díaz del Moral 1973). Carmona and Simpson (2003) stress moral hazard and problems of asymmetric information associated with Andalusian rural workers' militancy (Carmona and Simpson, 2003: 110-11).

The role of changing expectations and the role of local leaders in organizing collective action appears especially in detailed micro accounts of town life like Collier (1987) and Fraser (2010), in regional studies like Montañés (1997) on Cádiz and by del Rey (2008) or by Lisón Tolosana (1983) outside Andalusia. The story is

not one of exploitation and resistance, but of empowerment, changing expectations, and large changes in the social organization of labor and land markets, especially in towns controlled by the Spanish Socialist Party and the UGT (Collier, 1987: 15). These historical contributions focus on the drastic political changes associated with democratization and its effects on the mobilization and polarization of opposing interest groups (Shubert, 1990: 101; Tébar Hurtado, 2006: 22). Detailed studies by Cobo Romero (1992) and Grupo de Estudios Agrarios (1995) stress the radical overturn in relations of power, especially where Socialist mayors got elected (Macarro Vera, 2000: 62). Although overactive mayors could be suspended of their duties by prefects, in April 1933 there was a Socialist mayor in 18 per cent of towns in Seville, 32 per cent of towns in Córdoba, and 35 per cent of towns in Jaén (PSOE, AH-24-6, 29 August 1934: 8). According to this hypothesis, mobilization and conflict were highest where Socialist militants led peasants to confrontation, the mobilization of landowners, and polarization. Rather than stressing rank-and-file mobilization, in this view, institutional change and democratization sparked conflict top-down from the political parties and unions to the peasants.

However, a study by Enrique Montañés (1997) on the province of Cádiz, where Socialists were weak and anarchism strong, also describes a similar overturn in power relations and stresses collective bargaining and the conflicts associated with it. In the main agricultural towns of the province of Seville and Córdoba, anarcho-syndicalism was the norm and remained active until 1934 despite selective repression since the summer of 1931. Socialists were particularly powerful in Jaén and in the *sierra* towns of Córdoba, whereas the CNT controlled most of the large agro-towns of the Guadalquivir plain.

But perhaps ideological differences have been overstretched, especially because unions and their leaders have produced the main historical sources. As Montañés (1997) has shown, despite the revolutionary roots of anarcho-syndicalism, day-to-day collective action in towns controlled by the CNT was closer to bread-and-butter unionism focussing on wages and hours, the preference of local workers over temporary migrants, the abrogation of piece rates and the enforcement of collective contracts. Contemporary observers like journalist Manuel Chaves Nogales noted the blurred ideological preferences of rural laborers in the province of Seville, stressing their combination of anarchist, radical republican and communist ideas (Chaves Nogales, 2012: 35-37). Emphasis on Socialist dynamism perhaps does not do justice to the diverse nature of social movements in the South of Spain.

3. Data

This paper follows Bernal (1974) in attempting to provide the most complete to date mapping of conflict in Andalusia (Bernal, 1974: 139-88). Although rural conflict did not only intensify in Andalusia, the poor quality of official strike data in the 1930s forces me to concentrate on one region to assemble the necessary evidence from miscellaneous sources. I focus on Andalusia because it is in this area where the effect of latifundia on conflict and polarization has been singled out as the most intense. In fact, conflict became closely associated with the region studied here. Despite their specialization in agriculture, Jaén, Córdoba and Seville ranked 4th, 3rd and 7th of 50 provinces by absolute number of strikers in 1933 (*Boletín*, VI, 60, 1935: 46-67).

Moreover, focusing on these three provinces allows me to gather information on local patterns of land ownership. Because the government started the cadastre in provinces with large estates, quantitative evidence on land ownership distribution in 1930s Spain only exists for some provinces, including the provinces studied here (Pro Ruiz, 1992: 308-316; Carrión, 1975 [1932]: 77). In the case of Córdoba, Jaén and Seville, Pascual Carrión processed the detailed local information on landownership from the cadastre (Carrión, 1975). Additionally, the three provinces share some important characteristics like the specialisation in wheat and olives, a very seasonal demand for labour in rural labour markets, the presence of large estates in some areas (most prominently in the province of Seville and to a lesser extent in Córdoba and Jaén), and the importance of intra- and inter-provincial temporary migrations.

Because official data on strikes and conflict are poor or do not exist for the period, I rely like Bernal (1974) and Malefakis (1970), on non-official evidence, especially newspapers, and the historical literature. National newspapers devoted full sections to very detailed accounts of strikes and other conflicts in the provinces, as well as crimes and accidents of variegated nature. Moreover, this paper relies on decades of historical research in provincial archives and local newspapers. In addition, several national and provincial newspapers from the period are available online. Accordingly, I have performed boolean searches have been used to identify episodes of conflict in the period and region studied.

Newspapers and miscellaneous qualitative evidence from the historiography have well-known biases and problems. However, when official data are poor, as in the case of 1930s Spain, several important contributions to the study of social movements

have relied on newspapers and qualitative information to illuminate various aspects of collective action (Earl et al., 2004: 66; Franzosi, 1987). Newspaper research has been instrumental in several path-breaking studies of protest and social movements such as the Tarrow (1989), McAdam (1982) or Tilly (1979, 1995).

However, in the case of newspapers, selection and description biases need to be taken seriously: censorship and government control is always an issue in countries with a short tradition of independent journalism. Moreover, newspapers selectively report events depending on their intrinsic interest to readers and probably ideological biases, which can distort the information given on the event (Earl et al., 2004: 67).

In this paper, I have tried to identify the conflict episodes in more than one source (not always possible) and have relied on sources of information that historians have identified as trustworthy. Moreover, I have used the available information in ways that minimize description biases. For example, I focus on the strict counting of events rather than on using information on outcomes or participation in the event which could be subject to important inaccuracies. Strict event counts follow the strategy of Hobsbawm and Rudé (1973), Markoff (1985, 1986, 1996), Alston, Libecap and Mueller (2000), and, to a great extent, Hidalgo, Naidu and Richardson (2010).

However, one can argue that the number of events and the intensity of conflict are not necessarily highly correlated. In fact several authors stress that the intensity of conflict could be proxied by the proportion of participants in the conflict episode in the relevant population (for example the number of strikers in the overall labor force of a firm or a sector or the proportion of the local population involved in

land invasions) or the duration of the conflict (among others, Korpi and Shalev, 1980).

Using participation has problems in itself, however. Firstly, one worries about measurement error, a serious problem in the kind of evidence used here. Secondly, participation could be endogenous to the success of the conflict event. Participation is generally measured at peak participation but peak participation is endogenous to the prior probability of success (for example people participate more when the probability of repression is low or when success looks possible).

An oft-used second proxy for intensity is the duration of the conflict event. But duration is also poorly measured in the types of conflicts described here. Moreover, in most regression exercises with strike data, duration is negatively related to the probability of strikers' success (Card and Olson, 1995: 49-50). Both measurement error and endogeneity problems recommend avoiding the use duration and participation in the measurement of the intensity of conflict.

Finally, I do not take into account the outcome of the "conflict event". In some cases, it is difficult to conclude that a certain episode ended in a victory or defeat of peasant and government officials might have reasons to alter the distribution of strike outcomes. The available evidence suggests workers victories dominated losses until 1934 (FNTT, 2000: 205-6; AE, 1932-33: 650). This is not surprising: a study of prefects between 1931-1939 shows only 7 per cent of all prefects were military officers, whereas almost 60 per cent were school teachers, university professors, doctors and journalists in most cases associated with one of the Republican parties

(Serrallonga, 2007). Evidence from prefects shows that with the exception of the odd military prefect, prefects were generally sympathetic to the grievances of workers, although not necessarily tolerant of revolutionary anarcho-syndicalism (Aparicio Albiñana, 1936: 25-30; Martín Villodres, 1932: 44; Pascual Cevallos, 1983: 75, 89). The general strike of the summer of 1934 met however with very strong repression, arrests and the closing of union offices. Moreover, the anarchosyndicalists of the CNT, with links with revolutionary anarchism and refusing to participate state-sponsored collective bargaining institutions, faced selective repression.

The conflict dataset was culled from various sources. Firstly, we used the very detailed historical studies of Manuel Pérez Yruela (1979) on the province of Córdoba, the books of Francisco Cobo Romero (1992, 2003, 2007) on the province of Jaén and the study by Fernando Pascual Cevallos (1983) on the province of Seville. All of these studies give detailed accounts of rural conflict in the provinces studied here. Additionally, I read the section on conflicts in every single issue of *El Sol* from 1st April 1931 to 31st July 1934. Edward Malefakis considered *El Sol* to be the national newspaper that supplied the best information on local conflict (Malefakis, 1970: 304). Moreover, I undertook boolean searches for the concepts “*huelga*” AND “*campesinos*”, “*huelga de campesinos*”, “*invasión*”, “*campesinos invaden*”, “*invasión de fincas rústicas*” and several variations of these in the on-line archives of newspapers *El Sol*, *ABC* national edition, and *ABC* Seville edition. I also performed the same boolean searches in the digital newspaper library of the Spanish Ministry of Education, Culture and Sport which includes local newspapers from several provinces.ⁱ

I focus on the two instances of conflict that were the most common in the period. Firstly, I look at general strikes of peasants or farmers organized by peasant unions. For obvious reasons, this is not akin to counting the total number of peasant strikes, because it leaves out minor and isolated conflicts. However, it is difficult to find instances of “isolated” conflicts, either because they were relatively rare or they were not often reported.

Secondly, I focus on threats to property rights related to recorded instances of land invasions and trespassing. The contemporary press did not doubt to refer to these episodes as “land invasions” or “invasions of estates” (“*invasión de fincas rústicas*”). However, despite the trespassing, the occasional violence, or episodes of machinery destruction and arson, I find the “land invasions” studied here qualitatively different from genuine land seizures, in which peasants spend more than just some hours in the property of an owner who does not welcome them. Because land invasions in the region studied here had more to do with picket lines and conflicts around the issue of who was hired and for how long, I decided to refer to these idiosyncratic land invasions “collective trespassing”, generally referring to episodes in which, against the will of the owner, a group of people clearly identified as peasants entered a estate to work, glean or damage the harvest or machinery. Arson and machinery destruction of reapers and threshers look almost negligible in the towns studied here (despite the contemporary hyperbole in mainstream newspapers): the very detailed study on the province of Seville by Pascual Cevallos (1983) could only locate 15 episodes of machinery destruction, giving a total of 27 mechanical reapers smashed or damaged from 1931 to 1936, or 1 per cent of the stock of mechanical reapers in the province ((Pascual Cevallos, 1983: 137-138; *Anuario Estadístico de las Producciones*

Agrícolas, 1932: 320). Similarly, always according to Cevallos (1983), arson only surfaced in 11 towns in Seville from 1931 to 1936. Arson in Córdoba and Jaén was less important.

I organize the database as a monthly panel of 196 towns followed for 39 months from April 1931 to June 1934 (both months included) leading to 7644 usable observations. There are 248 towns for which I have collected information, but data on the distribution of land ownership in Carrión (1975 [1932]) are only available for 196 (capital cities of Córdoba, Jaén and Seville and cities above 30'000 souls were excluded from the sample). Selection bias is therefore a problem, but either the cadastre was not finished for the missing 52 towns or Pascual Carrión was not able put together the distribution of landownership. In the data set, missing observations appear prominently in the case of Seville, because by the time Carrión wrote his study in the early 1930s, the cadastre in that province was not yet finished (Carrión, 1975: 77). Missing observations correspond to towns where small and medium plots were the norm and therefore the cadastre could only be finished at great cost, like in the Aljarafe region in the province of Seville (the judicial districts of Seville and Sanlúcar la Mayor concentrate almost half of all the missing cases). In the province of Seville, towns with missing information on land ownership have much smaller populations and areas on average than the rest of the province (for example the average land area of the towns with missing information was one tenth than the average of the rest of towns in Seville). Furthermore, on average, towns with missing land inequality data struck on average only about a third of the times compared to the rest of the province. This means that I might be underestimating any potential positive effect of land ownership inequality on conflict.

The dependent variable takes value 1 if there was at least a strike or collective trespassing event starting in town i in month t and takes value 0 if there was none. Conflict was unevenly distributed. In the case of rural strikes, between 30 to 40 per cent of towns only experienced one conflict episode between April 1931 and July 1934. Clustering is more extreme when I consider “trespassing”. Table 1 shows the averages for the manifestations of conflict considered here: a sizable fraction of towns experienced zero or just one strike over 3 years and most towns did not record acts of collective trespassing.

INSERT TABLE 1 ABOUT HERE

4. Types of conflict and outcomes

Peasant strikes can be separated into two main groups: those taking place immediately before or during the harvest, generally over collective contracts, and conflicts in months outside the harvest, generally over the obligation of employers to employ unemployed workers. With respect to conflicts around the harvest time, happening around May-June for wheat and in November-December for olives, a large proportion of strikes occurred in the period in which collective contracts regulating the working conditions in the harvest were negotiated. In the case of Seville, Pascual Cevallos shows more than 90 per cent of conflicts took place around the main harvest periods (Pascual Cevallos, 1983: 100). The evidence for Jaén and Córdoba shows a greater share of strikes by unemployed workers. For example, in 1931-1932, 35 per cent of the strikes in the province of Jaén listed by the FNTT revolved around the issue of unemployment (“*crisis de trabajo*”) (FNTT, 2000: 205-6).

As for the demands of strikers, surprisingly, conflicts over wages or hours of work were not the most salient. There were serious disagreements about the payment of piece rates or time rates when the collective contracts for the olive-picking campaign were negotiated (Pérez Yruela, 1979: 137). Often, conflicts revolved around the issue of local labor exchanges and the list of employable workers, with strikers demanding the preferential hiring of local laborers at the expense of foreign workers (El Sol 9 July 1931; El Sol 11 November 1931).

Outside the harvest months, the management of employment concentrated a large proportion of conflicts. In the town of Rute in Córdoba, “several hundred workers, with wives and children, concentrated in front of the town hall to protest against unemployment” (Pérez Yruela, 1979: 122). In the summer of 1931, anarcho-syndicalist unions led a series of strikes to insist on the preferential hiring of local workers over non-local immigrants and demanding the hiring of household heads for several months after the end of the harvest season. To end the strike of Bujalance (Córdoba) in 1931, employers guaranteed employment for *all* local, male workers until the 15th of August and accepted employing more workers in shorter shifts until the end of October (Pérez Yruela, 1979: 126-7).

With respect to land invasions, land seizures were rare in the provinces studied here. Large biases in the evidence are possible, but newspapers reported numerous cases of genuine land seizures in the neighboring province of Huelva or in the region of Extremadura. Often, land invasions in the provinces studied here occurred because picket lines entered the estates to clash with strikebreakers. In Arjona, laborers

“stormed” the *cortijos* (Cobo Romero, 2003: 252). In Mancha Real, marauding groups of strikers forced the “permanent” workers to go on strike (Cobo Romero, 2003: 253). In the general strike of June 1934, conflicts between strikers and permanent *cortijo* workers were common (El Sol, 6 June 1934).

In other cases, invasions responded to practices that contributed to the smoothing of income throughout the year, for example the compulsory hiring of unemployed workers mandated by mayors (“*laboreo forzoso*”) or the gleaning of olives at the end of the olive harvest (the so called “*rebusca*”). During the 2nd Republic, the collective contract for the olive-picking season established the starting date of gleaning when a quarter of the olives had already been harvested. In fact, however, it was impossible to determine exactly when a quarter of the olives had been picked up (Aparicio Albiñana, 1936: 41). Workers, employers, mayors and prefects had different incentives to determine when gleaning could start. Workers could use a mayor authorization to start gleaning without the permission of owners (Pérez Yruela, 1979: 149). Prefects, especially in Jaén, struggled to control the workers and appease the landowners (Aparicio Albiñana, 1936: 25; Martín Villodres, 1932: 32-3). Interpretations also changed over time: in Jaén, in November 1931, restrictions on “*rebusca*” were lifted in the case of children and those older than 60 (El Sol, 25 November 1931). Yet in January 1932, *rebusca* was banned (El Sol, 17 January 1932). The practice of *rebusca* is behind several documented episodes of collective trespassing in Jaén.

Actions revolving around the issue of the so-called compulsory cultivation were also surrounded by ambiguities. In order to deal with the problem of seasonal

unemployment, the Republican government passed a decree that allowed majors to place unemployed workers in large estates in those cases in which a technical committee concluded that land was not exploited intensively enough. But determining what constituted legitimate intensification was impossible and generated numerous problems of interpretation. Top down control was difficult: prefects insisted on using the provincial Commissions of Compulsory Cultivation, but these were overridden by local commissions and autonomous actions by groups of peasants (Pérez Yruela, 1979: 140-41, 149). As in the case of gleaning, “compulsory cultivation” created many instances in which groups of laborers and employers clashed over unemployed workers’ right to work.

5. Research design

I estimate panel probit models in which the dependent variable depends on a series of time, cross-sectional, and time-series-cross-sectional interacted variables. The dependent variable in a first set of models is a dichotomous variable taking value 1 if at least one general peasant strike was started in the town in a given month between April 1931 and June 1934 (both included) and 0 otherwise. The dependent variable in the second set of models uses a dichotomous variable taking value 1 if there was a documented event of collective trespassing in the town in town i in month t . This yields a panel data set of 39 monthly observations for 196 towns.

I use as regressors a set of independent variables related to the economics and historical literature. I use dummies for month interacted with crop specialization dummies and year dummies to test the effect of bad harvests on conflict. Wheat and olive harvests were notoriously volatile in the South of Spain. Taking into account the

expansion of agricultural land from 1890 to 1935, the standard deviation of the output of wheat and olives was 23 per cent and 50 per cent of the mean respectively (AE, various years). Although wheat was less volatile than olives, wheat harvests were more volatile than olive harvests in the provinces studied here in the early 1930s, which allows for a straightforward comparison of conflict levels between towns specialising in cereals and those specialising in olives or other products. Compared with mean provincial wheat output for years in 1920-1933, wheat output in Seville was above mean in 1931, more than 2 standard deviations above mean in 1932 and 1.15 standard deviations below mean in 1933. Taking into account wheat production in the provinces of Córdoba or Jaén, both 1931 and 1933 were bad years and 1932 a very good one (own calculations from AE, various years). Although disaggregated information on the 1934 wheat harvest is not available, the 1934 harvest was considered as good or better than the 1932 harvest.

The volatility of wheat harvests in the early 1930s allows me to test if poor harvests caused greater levels of conflict. In particular, interacted May and June dummies with 1931 and 1933 dummies should have significantly different coefficients, meaning June 1931 and June 1933 should have been more conflict-prone than June 1932 and June 1934. In principle, this coefficient should also be higher in the case of bad years in towns specializing in cereal production compared to towns specialized in other crops in the same bad years. Therefore, I would expect interacted May and June dummies with year 1931 and year 1933 dummies and a dummy taking value 1 if the town was specialized in cereals to display positive coefficients statistically different from 0. Dummy variables capturing the type of local agricultural (irrigated, irrigated-dry farming, cereals, cereals and olives, olives) are interacted with

month- and year-dummies to identify the impact of volatile wheat harvests. The classification of crop-specialization is based on a coding of a detailed map of agricultural land uses in 1956 (this is before large investments in irrigation were made in the 1960s).ⁱⁱ

In addition, the landless local population should also be more prone to engage in collective action in bad years. I also use the log of the proportion of landless laborers in the whole of the poor peasant population (this is the total population of landless laborers, small tenants and small owners). This uses the work of Espinoza et al. (2004), who tabulated information from the 1933 Census of Peasants at the judicial district level (an administrative unit encompassing several towns). I expect a differentiated effect of the proportion of landless peasants among the local pool of poor peasants to have a bigger effect on conflict in bad years (1931 and 1933) than in good years (1932 and 1934).

The effect of insecure property rights is captured by the concentration of land ownership. I approximate variation in land tenure inequality by using the log of the percentage of agricultural land in each town taken up by estates over 250 hectares (from Carrión, 1975). Moreover, land tenure inequality also approximates the degree of employers' ability to act collectively, with resistance to Republican laws more easily coordinated when there are fewer estates employing laborers.

Several extra time-invariant variables are included as independent variables. In order to capture the effect of land scarcity in the event of strikes or invasions I use

the log of population density and population growth between 1920 and 1930 (from *Censo de Población*, 1920, 1930). It would be far-fetched to compare the competition over scarce land with falling living standards and a Malthusian struggle for survival. In fact, mortality rates almost halved from 1920 to 1935 in the provinces studied here in a process of gradual, continuous decline (*Movimiento Natural de la Población*, 1920-1935). Most probably, it would be wiser to consider those variables as proxies for the competition over rents coming from valuable land, as population would endogenously locate in the most fertile parts of the province (population growth and population density have a strong, statistically significant negative correlation with distance to the largest urban centre in the province).

I also add extra time-invariant variables capturing several dimensions related to the main hypotheses in the literature. Access to information and markets are proxied by the log of the linear distance between the town and the capital of the province, the log of the town's elevation above the sea, a dummy variable taking value 1 if the town had a train station and a dummy variable taking value 1 if the town was the main town in the judicial district.ⁱⁱⁱ Finally, the impact of the previous history of collective action is captured by a dummy variable taking one if the town had a registered peasant union in 1916 (IRS, 1916).

The regressions use several time-dummies capturing the changes in bargaining power over the agricultural year, time-effects, as well as the potential time-dependence of the process studied here. Bargaining power fluctuated throughout the year, being at its highest in May-June and November-December, when collective contracts for the wheat and olive harvest were negotiated. With the wheat or olives

ripe for collection and with employers risking losing the harvests in storms or to frost, laborers bargaining power was highest. To proxy unobserved bargaining power, I use a set of monthly dummies.

In addition, in order to deal with time- and state-dependence, I use a dummy variables taking value 1 if there was a conflict event in the past month, in the past three months and in the past six months. In addition, I also consider the cumulative number of events in the towns since April 1931. This considers all strikes had the same effect on the event in period t irrespective of how far apart they are from t .

Finally, in a third set of regressions, I look at the role of Socialist mayors in conflict using a sub-sample of towns in Seville and Córdoba for which I have information on Socialist mayors. In this case, I identify the effect of Socialist mayors by looking at closely contested elections in which Socialists won by a small majority. Moreover, I approach the polarizing effect of the electoral victory of the Centre-Right in November 1933 using the interaction of a dummy taking value 1 when the town had a Socialist electoral majority with a dummy taking value 1 in months after November 1933 and 0 in all the previous months. If the hypothesis of post-November 1933 polarization holds, this variable should have a negative coefficient (in a regression in which I also have dummies for year). Admittedly, having a Socialist electoral majority in municipal elections is not exactly the same as having a Socialist mayor. But in most cases, Socialist electoral majorities must have led to Socialist mayors and, if that were not the case, the mayor would have been more sympathetic to labor interests.

Model selection for the type of data used here is particularly tricky. In principle, one would want to account for unobserved heterogeneity and consequently use either a fixed-effects logit or a random-effects probit (Greene, 1993: 655). Reliance on several time-invariant explanatory variables makes the estimation of fixed-effects impossible. In random-effects probits, the assumption of no correlation between the random effect and observed explanatory variables is considered unappealing (Wawro, 2001: 567). A solution to this problem is Chamberlain's "correlated random-effects estimator", which assumes that the specific effect is correlated with all the leads and lags of the independent variables (Hsiao, 1986: 165). Because the data set relies heavily on time- invariant independent variables, this strategy would generate perfect multicollinearity among several variables. I am therefore forced to assume no correlation between the random effects and the independent variables.

A second important issue is the modelling of state dependence, with "state" defined as the realization of a stochastic process. Dependence in turn refers to the fact that the probability of observing the occurrence of one event depends on previous event occurrence. Part of state dependence is explained by unobservable variables, which affect the probability of observing one particular state or event. Without taking into account unobservables, the successive draws would look more correlated than they would be if unobserved heterogeneity was controlled for. "Spurious" state dependence can be dealt with using random effects. However, the use of fixed or random effects in time-series, cross-section data has been criticized if fixed- or random-effects absorb most of the interesting cross-sectional variance in the data

(Plümper, Troeger, Manow, 2005). For this reason, I display specifications excluding and including random effects.

True state-dependence means that successive draws might be correlated with one another. A typical solution is using lagged values of the dependent variable or more complex models with lagged values of the latent dependent variable behind the 0, 1 realizations (Beck, Epstein, Jackman, O'Halloran, 2002: 2). However, it would still be necessary to model the first cross-section and then assume an autocorrelated structure between the observed event and past events (Heckman, 1981; Stewart, 2007). I follow in this case the standard practice to deal with serial correlation in time-series cross-section data, using the lagged dependent variable as a regressor plus unit and period dummies (Beck and Katz, 1995; Beck, 2001). Because this “standard” has been subject to various criticisms, especially if the lags and time effects soak up interesting time series variation (Plümper, Troeger, Manow, 2005), I display specifications with and without lagged dependent variables.

In the case at hand, moreover, it is perhaps ill-advised to model the first cross-section with instrumental variables. Between April 1931 and June 1934, I am observing conflicts in a period sandwiched between two periods in which peasant collective action was severely repressed. Therefore, the problem of left censoring typical in continuous surveys, when the observation of an ongoing dynamic system starts at one arbitrary point in time, is not a problem here as I collect data on behaviour in a new political regime in which unions and strikes are legal. In my case, unobserved time-invariant variables are going to affect initial probabilities of state realizations, but random-effects will capture those effects.

Moreover, most of the literature on state dependence focusses on 0,1 sequences in which long series of 0s are followed by long series of 1s. Typically, this puts most empirircal exercises closer to duration data analysis, for example in the case of state failure (Beck, Epstein, Jackman, 2002), transitions between non-employment and employment (Heckman, 1981) or export behavior of firms (Esteve-Pérez and Rodríguez, 2009). In the case studied here, however, I observe long sequences of 0s, punctuated by the occasional 1. The explanation for the landscape of 0s and 1s is that several months display very low levels of strike activity. The main solution adopted here for state and time dependence is considering previous realizations of the dependent variable and temporal dummy variables to allow for changes in the baseline probability. Apart from proxying for unobserved laborers' bargaining power, the monthly dummy variables will in principle absorb the dependence of sequential conflicts.

With the hypotheses from the literature, I estimate the following panel probit models for the probability of observing a strike or invasion episode in town i in month t for all towns in the provinces of Córdoba, Jaén and Seville from April 1931 to July 1934.

$$[1] \text{ prob } (rural \text{ strike}=1)_{i,t} = \beta_0 + \beta_1' \cdot X_i + \beta_2' \cdot X_{i,t} + \beta_3' \cdot X_t + \mu_{i,t}$$

$$[2] \text{ prob } (rural \text{ strike}=1)_{i,t} = \beta_4 + \beta_5' \cdot X_i + \beta_6' \cdot X_{i,t} + \beta_7' \cdot X_t + \hat{\sigma}_i + \mu_{i,t}$$

$$[3] \text{ prob } (collective \text{ trespassing}=1)_{i,t} = \beta_8 + \beta_9' \cdot X_i + \beta_{10}' \cdot X_{i,t} + \beta_{11}' \cdot X_t + \mu_{i,t}$$

$$[4] \text{ prob } (collective \text{ trespassing}=1)_{i,t} = \beta_{12} + \beta_{13}' \cdot X_i + \beta_{14}' \cdot X_{i,t} + \beta_{15}' \cdot X_t + \hat{\sigma}_i + \mu_{i,t}$$

where X_i is a set of time-invariant town characteristics that include: the log of the proportion of estates of more than 250 hectares in the total area of the town, the log of the proportion of landless laborers among the poor peasantry (at judicial district level), population growth between 1920 and 1930, the log of population density, the log of elevation above sea level, the log of the distance from the provincial capital, and dummies taking value 1 in towns that were was the main judicial center of the district (*cabeza de partido judicial*), that had a train station, or that reported a registered peasant union in 1916, and 0 otherwise. Moreover, I use a dummy variable taking value 1 if the town displayed a Socialist electoral majority in the municipal elections of april-May 1931. I use a set of dummy variables that capture the type of local agriculture (control is irrigated and irrigated-dry farming agriculture, with a first dummy taking value 1 for cereal agriculture, a second taking value 1 for towns with a mixed specialization in cereals and olives, and a third dummy taking value 1 in olive-specialized towns). Finally, I include two dummy variables for the province containing the town (control category is the province of Córdoba), in order to control for idyoncratic, unobserved provincial effects (for example, to take into account the unobserved strategies and preferences of the provincial prefects).

$X_{i,t}$ includes the lagged realizations of the dependent variable in various forms (conflict in the previous month, in the previous three months, previous six months and the cumulative number of previous strikes since April 1931) and interactions of local characteristics (proportion landless, or crop specialization) with month and year dummies. Among the local characteristics, I include a variable taking value 1 when there was a Socialist electoral majority, which I interact with a dummy variable taking value 0 before November 1933 and 1 thereafter. Finally, I also include interactions

between local crop specialization and monthly and year dummies to test hypotheses about the effect of bad harvests.

X_i includes a set of time variables having to do with the month and year of each observation (January and 1931 are the omitted groups). Finally, $\mu_{i,t}$ is the disturbance term and δ_i is the random effect.

Table 2 and table 3 give the mean and standard deviations of town and judicial district characteristics and the correlation matrix. Tables 4 and 5 give the coefficients and standard errors of regressions corresponding to models 1 to 4. In table 4, models [1] and [2] are pooled regressions without random effects, which respectively exclude and include lagged realizations of the dependent variables (only coefficients from the specifications using cumulative number of strikes are reported). Still in table 4, columns [3], [4] and [5] report the random effects probit regressions. Specification [3] is a random-effects probit which does not include lags of the dependent variable as regressors. [4] and [5] add past realizations of the dependent variable and exclude and include month-year and crop-specialization dummies respectively. In the case of table 5, specifications [1] and [2] are population-averaged probits with and without lags of the dependent variable as regressors. Specifications [3] and [4] include random effects, interacted month, year and crop specialization dummies and lagged values of the dependent variable. In the case of regressions with “collective trespassing” presented in table 5, I was forced to exclude several monthly dummies and interacted variables because these predicted failure perfectly.

PLEASE INSERT TABLES 2, 3, 4, 5 HERE

Using the coefficients from the probit regressions, I can analyse the various effects of harvests on collective protest calculating baseline probabilities and marginal effects. In the case of random effects models, I used the transformation of the estimated random effects probit coefficients to calculate baseline probabilities as indicated in Arulampalam (1999). It is noteworthy that the different specifications are well behaved, according to Wald tests of joint significance, and coefficients of the most important variables are consistent across the different specifications. In all models, likelihood-ratio tests suggest unobserved heterogeneity needs to be taken into account as unobserved heterogeneity contributes to a substantial fraction of total variance.

First of all, it is noteworthy how conflict clustered in the harvesting months, generally when collective contracts were negotiated before the harvest. Dummies for May, June, and July and October, November and December display positive and significant coefficients, with the largest effects in June and November. Using the estimated coefficients of specification [5] in table 4, Figure 1 shows the baseline probabilities associated with each month calculated for 1932 and all continuous variables at their means (the probabilities are calculated for a capital of judicial district in the province of Córdoba with a recorded union in 1916 and no train station). The graph shows how the baseline probability of local general strikes in June 1932 was about 0.35. This baseline probability doubles that of November 1932, and is about three times higher than probabilities in other months. Local workers struck when they had more bargaining power, not during the months of high seasonal unemployment when their bargaining power was low. Moreover, coefficients on the

regressions with “collective trespassing” also show invasions were more common in June, generally associated with picket lines in strikes, not during the planting season when land invasions would have made more sense.

INSERT FIGURE 1 ABOUT HERE

When I look at the effects of bad harvests, the coefficients do not give support to the hypothesis that bad harvests caused greater levels of conflict. May and June 1931, despite the fact that the 1931 wheat harvest was poor, did not display high levels of conflict. In fact, they had negative, significant coefficients in the regressions predicting strikes. Across all specifications, coefficients of the interacted month and year dummies suggest June 1933 was not significantly more conflict-prone than June 1932 or June 1934, suggesting the size of the harvest was not associated with the propensity to strike or to invade. Finally, protest did not occur more often in bad years in towns specialized in cereals compared with towns specialized in other crops in the same bad years: the 1933 dummies interacted with the dummies for local crop specialization are not significant in specifications [1], [2] and [5] in table 4 and in all specifications in table 5.

Dummy variables for year might also capture yearly effects associated with the size of the harvest, among other unobserved variables associated with each of the calendar years. In this respect, results from regressions do not favour narratives emphasizing bad harvests. Dummies for 1932 and 1933 display large and positive coefficients, which are in most cases not significant. Only the coefficient on the dummy for 1934 is consistently significant across most specifications in the case of strikes.

Vulnerability of households to poor harvests must have been greater in towns characterized by having a large proportion of landless laborers, but regressions throw mixed results: landlessness was correlated with greater propensity to strike in 1931, 1932 and 1933, and not in 1934, moreover a greater proportion of landless laborers among the poor peasantry was *negatively* related to the propensity to invade, except in 1934. In addition, the effect of landlessness was not distinctively higher in bad years than in good years in the case of strikes. Although, towns with a higher proportion of landless laborers clearly displayed a differentiated pattern of conflict (more strikes, fewer land invasions), the interacted landlessness-year variable shows this effect was activated by the harvest of 1931, but not by the bad harvest of 1933.

Moving to the effect of agrarian institutions, the impact of landownership inequality on conflict is not significant (and wrongly signed), both in the case of strikes and of collective trespassing. Land ownership inequality and landlessness are collinear, but when I exclude the log of the proportion of landless laborers, I get a negative and not significant coefficient on the proxy landownership, -0.04 with a standard error of 0.07. The lack of significance of the coefficient on land ownership inequality strongly suggests threats to the property rights of owners of large estates were not a trigger of conflict. In addition, employers' collective action did not affect their workers' proclivity to strike or invade.

Perhaps a proxy for unobserved locational advantages or for competition for scarce land, population density was in general not correlated with greater levels of conflict. Only in the case of regressions with strikes as the dependent variable, one

specification throws a positive, significant coefficient, while in the other cases coefficients are statistically non-significant. Capturing a similar effect, population growth between 1920 and 1930 in the strike regressions had positive and significant effects, but not in the invasion regressions. In the case of strikes, the effect of population growth is substantial: the probability of a strike in June 1932 would increase 13 % with a standard deviation increase in population, for a town in Córdoba with the continuous variables at their means, with a recorded union presence in 1916, no train station and main city of judicial district. It is important to note as well that population growth was strongly positively correlated with the proportion of landless laborers, population density and negatively correlated with distance from large urban centers and elevation. The insignificance of population density persists when I exclude population growth in alternative specifications (in unreported regressions).

Perhaps a proxy for the proximity government officials, being the main administrative unit of the area (*cabeza de partido judicial*) had a distinct effect on the probability of striking and trespassing. With all variables at their means, the probability of starting a strike in June 1932 in the representative town in Córdoba more than doubles if the town was the main administrative town of the district compared to a town with the same characteristics that was not the administrative center of the district (from a probability of 0.19 to 0.39). The probability of reported trespassing episodes also increases, with the same exercise multiplying the baseline probability by 3.

Similarly, towns that were more integrated with national markets seem to be more prone to conflict. Adding a train station to the representative town in the

province of Córdoba in June 1932 increased the baseline probability by 31 per cent. Moreover, the log of the distance to the capital of the province displayed negative and statistically significant coefficients in almost all specifications with strikes as the dependent variable (and insignificant coefficients in the case of the regressions taking into account invasions). Capturing the proximity to markets and large urban centres, a one standard deviation decline in the distance to the largest urban center in the province increased the probability of strikes in the representative town in June 1932 by 66 per cent.

In order to test the hypothesis that autonomous organization and the previous history of collective action matter, I evaluate the impact of previous union organization using the records of existing peasant unions in 1916, some years before the repression of peasant unions intensified in 1920. A comparison of my representative town in Córdoba in June 1932 with a union in 1916 with the same town not reporting union presence in 1916 yields an increase of the baseline probability of a strike of 50 per cent. The existence of a union in 1916, however, is not relevant for the probability of trespassing by groups of rural workers. That said, the presence of a union in 1916 could be endogenously related to the persistence of exploitative agrarian institutions. However, union presence in 1916 is neither explained by landownership inequality, nor by the proportion of landless laborers. As in the case of conflict, distance to large urban centers, access to markets and being an administrative center are the strongest predictors of union presence in 1916.

Finally, I look at the serial correlation of sequential conflicts. It is important to note that the dummy variables conflict in the last 3 and 6 months did not dispel

statistically significant coefficients. But when I look at the accumulated experience of conflicts in the Second Republic, regressions with strikes and with invasions offer very different results. In the case of strikes, the number of previous strikes sharply reduces the probability of observing a strike in any moment of time. Rather inconsistently, however, previous invasions increased the probability of observing more invasions. In the case of strikes, perhaps the negative effects of previous strikes have to do with the greater repression of Anarcho-syndicalist unions after 1932. On the contrary, perhaps the control over labor markets by the union was more difficult over time making it more likely that picket lines entered the fields. The law of municipal boundaries was more flexibly interpreted as the costs of the ban on temporary migrations were increasingly apparent (Domenech, 2013).

Finally, I analyze the impact of “Socialist mayors” on the levels of rural conflict, understood by the literature as a polarizing force. There are two potential hypotheses to be considered, which are not altogether compatible: the first is that Socialist mayors pushed ahead with the ambitious Republican legislation and faced the fierce resistance of employers and landowners, leading to greater levels of conflict. A second hypothesis is that Socialist-dominated town councils started to feel the repression after November 1933 when the Centre-Left lost the general election. The evidence shows Socialist mayors were increasingly suspended after November 1933 (when the government was taken by the Rightist Republicans), with growing intensity in 1934 until the peasant general strike of June (Carmona Obrero, 2002: 151-157; Payne, 2006: 62; Salazar Alonso, 1935: 75-77).

I perform the same regressions as in (1) but now including a dummy variable in those towns in which the Socialists had an electoral majority. Because quantitative information on the municipal elections of April and May 1931 is not easy to come by, I was forced to use subsamples of municipal elections in Córdoba and in Seville (only May elections were available) (Seville: Gómez Salvago, 1986: 133-34; Córdoba: *La Voz*, 14th April 1931, 15th April 1931, 1st June 1931, 2nd June 1931, 4th June 1931; *ABC*, 14th April 1931, pp. 31-32).

Testing for the impact of municipal socialism is however difficult, as local Socialist power is obviously correlated with the militancy of local workers and would lead to overestimating the impact of Socialist mayors on conflict. Therefore, I also present results of a matched sample of elections in which Socialists won or lost by a small margin. Because there were few elections around the 50 % discontinuity, I was forced to use an ampler definition of closely contested elections (taking into account towns in which there was a share of the elected representatives from the Spanish Socialist party from 30 to 70 per cent).

INSERT TABLE 6 ABOUT HERE

Table 6 shows the coefficients of the probit regressions with the Socialist electoral majority as an explanatory variable. When I use all the towns in which I have information on the election outcome, the coefficient is positive, as expected, but not statistically significant in the case of strikes and negative, non-significant in the case of collective trespassing. The interacted variable capturing the effect of the loss of local power after November 1933 on conflict has a positive coefficient in both cases, as expected according to the historical literature, but it is not statistically

significant. In addition, the sample of closely contested elections suggests using the sample that considers all elections overestimates the impact of municipal socialism on strikes. For example, I get a negative and now significant coefficient in the case of strikes. I cannot reject the null hypothesis that municipal Socialism did *not* explain strike levels (and also collective trespassing levels).

9. Conclusions

In development economics, opportunity cost and grievance theories have become the predominant approach to study conflict in developing societies. This paper studies one of the most intense and destabilizing processes of peasant mobilization and conflict in interwar Europe. For the 1930s, it is considered rural conflict was particularly acrimonious in areas with unequal distribution of land ownership, in light with an interpretation of Spanish modern history that puts large estates and the unequal distribution of land as one of the main obstacles of political and economic modernization.

In this paper, however, I show that “ecological” correlations using regional or provincial means disappear once I exploit local variation in the amount of local land held by large estates. Moreover, conflict in 1930s Andalusia has been associated with the poverty and exploitation of landless laborers, especially those living in towns specializing in wheat and/or olives, who remained unemployed for several months in the year. Yet, I show conflict clustered in fast growing towns, which were close to large urban centres and were integrated into national agricultural markets. Local Socialist power did not matter for the latter, as many of the most vibrant towns in Seville or Córdoba displayed a historical preference for anarcho-syndicalism or

radical republicanism and did not elect Socialist mayors. Clusters of agrarian development and thick labor markets explain the vitality of protest, part of a large change in expectations and in bargaining power. The testimonies of several prefects of the period show that despite the occasional bouts of repression against anarcho-syndicalist leaders, central authorities until June 1934 favored collective bargaining. State support to collective bargaining led to a wave of strikes, which was not correlated with any possible proxy of living standards, specialization or variation in income. Workers in some towns protested more possibly because they had a longer experience of strategic interaction with authorities. State intervention to stem riots and rebellions in the large agro-towns of the South Spain had been going on since 19th century and it had been a natural step to negotiate working conditions with provincial prefects or the Ministry of Labor. Most of this protest clustered in well-integrated and fast-growing towns in which various social groups competed for rents from agricultural development.

The results found here perhaps erradicate several myths about social relations in Andalusia in the 1930s. Seasonal unemployment was a characteristic of rural labor markets in cereal growing areas of Spain, not a new phenomenon in the 1930s. Poverty and living standards were dismal in the 1930s, but the situation did not deteriorate markedly in the early 1930s due to bad harvests or employers' sabotage. There was a profound change in social relations and in the governance of rural labor markets, but nothing equivalent to a "latent" civil war caused by unemployment, inequality and exploitation. In fact, violence, boycott and sabotage would be incompatible with the very abundant harvests of 1932 and 1934. Perhaps, only the fundamental political regime change of April 1931, pro-labor legislative change, and

weakening of employers' bargaining power explain rural conflict in this part of Spain in the early 1930s.

SOURCES:

ABC, Madrid and Seville editions.

Anuario Estadístico de España (AE), various years.

Boletín del Ministerio de Trabajo, Sanidad y Previsión

Censo de la Población de España, 1900, 1910, 1920, 1930.

El Sol

Instituto de Reformas Sociales (IRS), *Estadística de asociaciones* (Madrid: Minuesa de los Ríos, 1916).

Ministerio de Educación, Cultura y Deporte, Spain, Biblioteca Virtual de Prensa

Histórica: <http://prensahistorica.mcu.es/es/consulta/busqueda.cmd>

Movimiento Natural de la Población, various years.

Partido Socialista Obrero Español (Spanish Socialist Party), Archivo histórico.

BIBLIOGRAPHY:

Acemoglu, Daron and James A. Robinson, *Economic origins of dictatorship and democracy* (Cambridge, UK: Cambridge University Press, 2005).

Alston, Lee J., Gary Libecap and Bernardo Mueller, "Property rights and land reform: legal inconsistencies and the sources of violent conflict in the Brazilian Amazon," *Journal of Environmental Economics and Management*, 39, 2 (2000): 162-188.

André, Catherine and Jean-Philippe Platteau, "Land relations under unbearable stress: Rwanda caught in the Malthusian trap." *Journal of Economic Behavior & Organization*, 34, 1 (1998): 1-47.

Aparicio Albiñana, José, *Para qué sirve un gobernador. Impresiones ingenuas de un ciudadano que lo ha sido dos años de las provincias de Jaén y Albacete* (Valencia: La Semana Gráfica, 1936).

Arulampalam, Wiji, "Practitioners' Corner: a Note on Estimated Coefficients in Random Effects Probit Models," *Oxford Bulletin of Economics and Statistics*, 61, 4 (1999), pp. 597-602.

Beck, Nathaniel, "Time-series cross-section data: what have we learn in the past?" *Annual Review of Political Science*, 4 (2001), pp. 271-293.

Beck, Nathaniel and Jonathan N. Katz, "What to do (and not to do) with time-series cross-section data." *American Political Science Review*, 89, 3 (1995), pp. 634-647.

Beck, Nathaniel, Jonathan N. Katz, and Richard Tucker, "Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable," *American Journal of Political Science*, 42, 4 (1998), pp. 1260-1288.

Beck, Nathaniel, David Epstein, Simo Jackman, and Sharyn O'Halloran, "Alternative Models of Dynamics in Binary Time-Series-Cross-Section Models: the Example of State Failure." Paper prepared for the 2001 Annual Meeting of the Society of Political Methodology, Draft July 2002.

Berman, Eli, Michael Callen, Joseph Felter and Jacob N. Shapiro, "Do working men rebel? Insurgency and unemployment in Afghanistan, Iraq and the Philippines," *Journal of Conflict Resolution*, 55, 4 (2011): 496-528.

Bernal, Antonio Miguel, *La propiedad de la tierra y las luchas agrarias andaluzas* (Barcelona, 1974).

Biggs, Michael, "Strikes as sequences of interaction: the American strike wave of 1886." *Social Science History*, 26, (3): 583-617.

Biggs, Michael, "Strikes as forest fires: Chicago and Paris in the late 19th century." *American Journal of Sociology*, 110, 6 (2005): 1684-1714.

Brenan, Gerald, *The Spanish Labyrinth. The social and political background of the Spanish Civil War* (Cambridge, UK: Cambridge University Press, 2008).

Carmona, Juan and James Simpson, *El laberinto de la agricultura española. Instituciones, contratos y organización entre 1850 y 1936* (Zaragoza: Prensas Universitarias de la Universidad de Zaragoza, 2003).

Carmona Obrero, Francisco, *Violencia política y orden público en Andalucía Occidental 1933-1934* (Madrid: Ministerio del Interior, 2002).

Carrión, Pascual, *Los latifundios en España* (Barcelona: Ariel, 1975 [1932]).

Chaves Nogales, Manuel, *Andalucía roja y "La Blanca Paloma" y otros reportajes de la República* (Córdoba: Almuzara, 2012)

Cobo Romero, Francisco, *Labradores, campesinos y jornaleros. Protesta social y diferenciación interna del campesinado jiennense en los orígenes de la Guerra Civil* (Córdoba: Publicaciones del Ayuntamiento de Córdoba, 1992).

Cobo Romero, Francisco, "El control campesino y jornalero en los ayuntamientos de la Alta Andalucía durante la crisis de los años treinta (1931-1939)." *Hispania*, LIX/1, 201 (1999): 75-96.

Cobo Romero, Francisco, *De campesinos a electores: modernización agraria en Andalucía, politización campesina y derechización de los pequeños propietarios* (Madrid: Biblioteca Nueva, 2003).

- Cobo Romero, Francisco, *Revolución campesina y contrarrevolución franquista en Andalucía: conflictividad social, violencia política y represión* (Granada: Universidad de Granada, 2007).
- Collier, George A., *Socialists of rural Andalusia: Unacknowledged Revolutionaries in the Second Republic* (Palo Alto, CA: Stanford University Press, 1987).
- Collier, Paul, *Wars, guns and votes. Democracy in dangerous places* (London: Bodley Head, 2009).
- Del Rey, Fernando, *Paisanos en lucha. Exclusión política y violencia en la Segunda República Española* (Madrid: Biblioteca Nueva, 2008)
- Do, Quy-Toan and Lakshmi Iyer, “Geography, poverty and conflict in Nepal.” *Journal of Peace Research*, 47, 6 (2010): 735-748.
- Domenech, Jordi, “Rural labour markets and rural conflict in Spain before the Civil War (1931-1936.” *Economic History Review*, 66, 1 (February 2013), pp. 86-108.
- Díaz del Moral, Juan, *Historia de las agitaciones campesinas andaluzas* (Madrid: Alianza editorial, 1973 [1928]).
- Espinoza, Luis E., Ricardo Robledo, María Pilar Brel, and Julio Villar, “Estructura social del campo español: el Censo de Campesinos (1932-1936). Primeros resultados.” In Robledo, Ricardo and Santiago López, *¿Interés particular, bienestar público? Grandes patrimonios y reformas agrarias* (Zaragoza: Prensas Universitarias de Zaragoza, 2007), pp. 307-342.
- Esteve-Pérez, Silviano and Diego Rodríguez, “The Dynamics of Trade and Innovation: a Joint Approach.” Mimeo, Universidad Complutense de Madrid, 2009.

Fearon, James and David Laitin, "Ethnicity, Insurgency, and Civil War." *American Political Science Review*, 97, 1 (2003): 75-90.

Federación Nacional de Trabajadores de la Tierra, *Memoria que presenta el Comité nacional de este organismo al examen y discusión del Congreso ordinario que ha de celebrarse en Madrid durante los días 17 y siguientes del mes de septiembre de 1932* (Jaén: Universidad de Jaén, 2000).

Fraser, Ronald, *In Hiding: the Life of Manuel Cortés* (London, 2010 [1972]).

Freeman, Richard B., "Spurts in union growth: defining moments and social processes." In M. D. Bordo, C. Goldin and E. N. White, eds., *The defining moment: the Great Depression and the American economy in the twentieth century* (Chicago: University of Chicago Press, 1998): 265-297.

Gerschenkron, Alexander, *Bread and democracy in Germany* (New York: Howard Fertig, 1966 [1943]).

Gómez Salvago, José, *La Segunda República. Elecciones y partidos políticos en Sevilla y la provincia* (Sevilla: Servicio de publicaciones de la Universidad de Sevilla, 1986).

Goodwin, Jeff, *No other way out. States and revolutionary movements, 1945-1991* (Cambridge, UK: Cambridge University Press, 2001).

Goodwin, Jeff and James M. Jasper (eds.), *Contention in Context: Political Opportunities and the Emergence of Protest* (Stanford: Stanford University Press, 2012).

Graham, Helen, *The Spanish Republic at War 1936-1939* (Cambridge: Cambridge University Press, 2002).

- Graham, Helen, *The Spanish Civil War. A very short introduction* (Oxford: Oxford University Press, 2005).
- Greene, William H., *Econometric Analysis* (New York: Prentice Hall, 1993).
- Grupo de Estudios Agrarios, “Transformaciones agrarias y cambios en la funcionalidad de los poderes locales en la Alta Andalucía, 1750-1950,” *Noticiario de Historia Agraria*, 10 (1995): 35-66.
- Herreros, Francisco and Henar Criado, “Pre-emptive or arbitrary: two forms of lethal violence in a civil war,” *Journal of Conflict Resolution*, 53, 3 (June 2009), pp. 419-445.
- Hidalgo, Daniel F., Suresh Naidu, Simeon Nichter and Neal Richardson, “Economic determinants of land invasions,” *Review of Economics and Statistics*, 92, 3 (2010): 505-523.
- Hobsbawm, E. J. And George Rudé, *Captain Swing* (Harmondsworth: Penguin, 1973).
- Hsiao, Cheng, *Analysis of Panel Data* (Cambridge: Cambridge University Press, 1986).
- Korpi, Walter and Michael Shalev, “Strikes, Power and Politics in Western Nations.” *Political Power and Social Theory*, vol. 1 (1980), pp. 301-34.
- Linz, Juan J., *The Breakdown of Democratic Regimes: Crisis, Breakdown, and Reequilibration* (Baltimore: The Johns Hopkins University Press, 1978).
- Linz, Juan J., “From Great Hopes to Civil War: the Breakdown of Democracy in Spain.” In Juan J. Linz and Alfred Stepan, *The Breakdown of Democratic Regimes. Europe* (Baltimore: The Johns Hopkins University Press, 1994), pp. 142-217.

- Lisón Tolosana, C., *Belmonte de los Caballeros: a sociological study of a Spanish town* (Oxford: Clarendon Press, 1966).
- López Ontiveros, Antonio and Rafael Mata Olmo, *Propiedad de la tierra y reforma agraria en Córdoba (1932-1936)* (Córdoba, 1993).
- Luebbert, Gregory M., *Liberalism, Fascism or Social Democracy. Social classes and the political origins of regimes in interwar Europe* (New York: Oxford University Press, 1991).
- Macarro Vera, J. M., *Socialismo, República y revolución en Andalucía, 1931-1936* (Sevilla: Universidad de Sevilla, 2000).
- Malefakis, Edward E., *Agrarian reform and peasant revolution in Spain. Origins of the Civil War* (New Haven, Conn: Yale University Press, 1970).
- Markoff, John, "The social geography of rural revolt at the beginning of the French Revolution," *American Sociological Review*, 50, 6 (1985): 761-781.
- Markoff, John, "Contexts and forms of rural revolt: France in 1789," *Journal of Conflict Resolution*, 30, 2 (June 1986): 253-289.
- Markoff, John, *The abolition of feudalism. Peasants, lords, and legislators in the French Revolution* (University Park, PA: Penn State University Press, 1996).
- Martín Villodres, *La verdad desnuda (mi Soviet en Jaén)* (Madrid: Librería Bergua, 1932).
- McAdam, Doug, Sidney Tarrow, and Charles Tilly, *Dynamics of contention* (New York: Cambridge University Press, 2001).

- Miguel, Edward, Shanker Satyanath and Ernest Sergenti, "Economic shocks and civil conflict: an instrumental variable approach." *Journal of Political Economy*, 112, 4 (2004): 725-753.
- Mintz, Jerome R., *The Anarchists of Casas Viejas* (Bloomington, Indiana: Indiana University Press, 1994).
- Mitchell, B. R., *International Historical Statistics: Europe, 1750-2005* (London: MacMillan, 2007)
- Montañés, Enrique, "Crisis agrícola y reformismo republicano: la instauración de la negociación colectiva en la campiña andaluza, 1931-1933." *Estudios Regionales*, 49 (1997): 133-160.
- Moore Jr., Barrington, *Social origins of dictatorship and democracy. Lord and peasant in the modern world* (Harmondsworth: Penguin, 1967).
- Pascual Cevallos, Fernando, *Luchas agrarias en Sevilla durante la Segunda República* (Seville: Publicaciones de la Excelentísima Diputación Provincial de Sevilla, 1983).
- Payne, Stanley G., "Political ideology and modernization in Spain." *World Politics*, 25, 1 (1972), pp. 155-181.
- Payne, Stanley G., *The Collapse of the Spanish Republic, 1933-1936. Origins of the Civil War* (New Haven and London: Yale University Press, 2006).
- Pérez Yruela, Manuel, *La conflictividad campesina en la provincia de Córdoba (1931-1936)* (Madrid: MAPA, 1979).
- Plumper, Thomas, Vera E. Troeger and Philip Manow, "Panel data analysis in comparative politics: Linking method to theory." *European Journal of Political Research*, 44, 2 (2005), pp. 327-354.

Prados de la Escosura, Leandro, "Inequality, poverty and the Kuznets curve in Spain: 1850-2000." *European Review of Economic History*, 12, 3 (2008), pp. 287-324.

Pro Ruiz, Juan, *Estado, geometría y propiedad. Los orígenes del catastro en España, 1715-1941* (Madrid: Ministerio de Economía y Hacienda, 1992).

Salazar Alonso, Rafael, *Bajo el signo de la revolución* (Madrid: Roberto San Martín, 1935).

Serrallonga, Joan, "El aparato provincial durante la Segunda República. Los gobernadores civiles, 1931-1939." *Hispania Nova*, 7 (2007).

Shubert, Adrian, *A Social History of Modern Spain* (London: Routledge, 1990)

Simpson, James, "Technical change, labor absorption and living standards in rural Andalucía, 1886-1936." *Agricultural History*, 66, 3 (1992), pp. 1-24.

Simpson, James, *Spanish agriculture: the long Siesta, 1765-1965* (Cambridge, 1995).

Skocpol, Theda, *States and social revolutions. A comparative analysis of France, Russia, and China* (Cambridge, UK: Cambridge University Press, 1979).

Snowden, Frank M., *Violence and the Great Estates in the South of Italy. Apulia, 1900-1922* (Cambridge: Cambridge University Press, 1986).

Snowden, Frank M., *The Fascist Revolution in Tuscany, 1919-1922* (Cambridge: Cambridge University Press, 1989).

Stewart, Mark, "Maximum simulated likelihood estimation of random effects dynamic probit models with autocorrelated errors," *Stata Journal*, 6, 2 (2006), pp. 256-272.

- Tébar Hurtado, Javier, *Reforma, revolución y contrarrevolución agraria. Conflicto social y lucha política en el campo* (Barcelona: Flor del Viento ediciones, 2006).
- Tilly, Charles, *The Vendée* (Cambridge, MA: Harvard University Press, 1964).
- Tilly, Charles, *The Contentious French* (Cambridge, MA: Harvard University Press, 1986).
- Tusell, Javier, *Oligarquía y caciquismo en Andalucía (1890-1923)* (Barcelona: Planeta, 1976).
- Villarreal, Andrés, “The social ecology of rural violence: land scarcity, the organization of agricultural production, and the presence of the state.” *American Journal of Sociology*, 110, 2 (2004): 313-348.
- Wawro, Gregory, “A Panel Probit Analysis of Campaign Contributions and Roll-Call Votes,” *American Journal of Political Science*, 45, 3 (2001), pp. 563-579.
- Wolf, Eric R., *Peasant wars of the 20th century* (University of Oklahoma Press, 1999).

ⁱ <http://prensahistorica.mcu.es/es/consulta/busqueda.cmd>

ⁱⁱ http://www.juntadeandalucia.es/medioambiente/site/rediam/menuitem.04dc44281e5d53cf8ca78ca731525ea0/?vgnextoid=34f0bb5c5e35a210VgnVCM2000000624e50aRCRD&vgnextchannel=784efa937370f210VgnVCM1000001325e50aRCRD&vgnextfmt=rediam&lr=lang_es

ⁱⁱⁱ Linear distances between towns: <http://www.distanciasentreciudades.com>.

Historical information on train stations in Andalusia:

http://www.spanishrailway.com/capitulos_html/companiaderrocarrilesandaluces.htm.

Elevation from:

<http://www.pueblosandaluces.com/index.asp>,

<http://www.juntadeandalucia.es/institutodeestadisticaycartografia/sima/smind14.htm> and

Dor further information, Instituto Geográfico Nacional, <http://www.ign.es/ign/layout/ignane.do> and Goerlich and Cantarino (2010).

Table 1**Strikes and land invasions in Córdoba, Jaén and Seville, April 1931 to July 1934**

<i>Strikes</i>	<i>Means</i>	<i>S. D.</i>	<i>Max</i>	<i>Min</i>	<i>% towns with 0 or 1 strike</i>
All	1.996	1.936	9	0	38 %
Córdoba	2	2.061	9	0	44 %
Jaén	2.096	2.011	9	0	41 %
Seville	1.9	1.78	8	0	31 %
<i>Collective Trespassing</i>	<i>Means</i>	<i>S. D.</i>	<i>Max</i>	<i>Min</i>	<i>% with 0 recorded trespassing</i>
All	0.25	0.637	4	0	82 %
Córdoba	0.29	0.716	4	0	80 %
Jaén	0.151	0.465	3	0	88 %
Seville	0.307	0.703	4	0	78 %

Source: own calculations using Andalusian conflict database.

Table 2**Descriptive statistics of town characteristics:**

<i>Variables</i>	<i>Mean</i>	<i>SD</i>
Log (% estates >250 hec)	3.395	0.851
Log (proportion landless)	4.301	0.173
Log (distance)	3.895	0.703
Log (elevation above sea level)	5.699	1.019
Log (population density)	-0.541	0.89
Population growth 1920-1930	16.35	16.25
Train station =1	0.366	0.483
Capital judicial district =1	0.134	0.342
Peasant union in 1916 =1	0.384	0.487

Sources: See text.

Table 3**Correlation matrix, town characteristics.**

	<i>Log (% large estates)</i>	<i>Log (prop landless)</i>	<i>Log (distance)</i>	<i>Log (elevation)</i>	<i>Log (pop density)</i>
Log(prop landless)	0.204*				
Log (distance)	-0.079	-0.145*			
Log (elevation)	-0.255*	-0.567*	0.6*		
Log (popdensity)	-0.393*	0.152*	-0.391*	-0.222*	
Popgrowth, 1920-1930	-0.017	0.069	-0.238*	-0.238*	0.282*

Notes: * significantly different from 0 at 5 % level

Table 4. Determinants of local strikes, April 1931-July 1934. Panel probit models.

	POPULATION AVERAGED		Robust		RANDOM EFFECTS					
VARIABLES	[1] COEFF	STD ERR	[2] COEFF	STD ERROR	[3] UNADJUSTED COEFF	STD ERR	[4] UNADJUSTED COEFF	STD ERROR	[5] UNADJUSTED COEFF	STD ERROR
CONSTANT	-6.36***	1.989	-6.459***	2.073	-6.159***	1.904	-5.644***	2.431	-5.578**	2.456
Log (% large estates)	-0.041	0.044	-0.044	0.048	-0.04	0.047	-0.05	0.071	-0.053	0.071
Pop growth, 1920-1930	0.005**	0.002	0.005	0.002	0.006**	0.002	0.009**	0.004	0.009**	0.004
Log (pop density)	0.078	0.048	0.088*	0.053	0.08	0.055	0.127	0.081	0.126	0.082
Log (elevation)	0.052	0.075	0.063	0.083	0.042	0.071	0.041	0.088	0.04	0.089
Capital district=1	0.4***	0.086	0.442***	0.104	0.423***	0.089	0.667***	0.15	0.67***	0.151
Log (distance)	-0.165	0.073	-0.187**	0.085	-0.162***	0.076	-0.244**	0.113	-0.243**	0.116
Train station = 1	0.115	0.076	0.125	0.085	0.133*	0.078	0.204*	0.116	0.21*	0.118
Union in 1916=1	0.198**	0.076	0.21**	0.083	0.206**	0.073	0.278**	0.111	0.281**	0.112
Cereals	0.043	0.157	0.034	0.173	0.052	0.157	0.011	0.237	0.004	0.238
Cereals and olives	-0.013	0.159	-0.018	0.177	-0.025	0.147	-0.074	0.324	-0.08	0.225
Olives	-0.077	0.168	-0.091	0.186	-0.073	0.159	-0.141	0.242	-0.141	0.242
Dummy Jaén	0.176*	0.096	0.166	0.106	0.187*	0.104	0.116	0.14	0.115	0.142
Dummy Seville	0.073	0.111	0.077	0.123	0.056	0.11	0.026	0.161	0.027	0.163
Log (proplandless)	1.076**	0.458	1.103	0.479	1.01**	0.424	0.897*	0.543	0.872	0.547
Log(proplandless)*1932	-0.573	0.462	-0.526	0.468	-0.612	0.44	-0.456	0.463	-0.427	0.466
Log(proplandless)*1933	-0.584	0.434	-0.525	0.441	-0.585	0.43	-0.263	0.456	-0.279	0.457
Log(proplandless)*1934	-1.133	0.498	-1.062	0.498	-1.18**	0.514	-0.946*	0.535	-0.906	0.54
Cumulative strikes			-0.041*	0.025			-0.197***	0.049	-0.197***	0.05
Dummy February	0.002	0.192	0.001	0.188	0.009	0.194	-0.03	0.196	0.02	0.201
Dummy March	0.276	0.163	0.27	0.16	0.298	0.175	0.274*	0.177	0.324*	0.181
Dummy April	-0.1	0.157	-0.097	0.154	-0.091	0.185	-0.121	0.188	-0.072	0.193
Dummy May	0.608***	0.165	0.603***	0.161	0.647***	0.178	0.683**	0.178	0.712**	0.185
Dummy June	1.422***	0.168	1.417***	0.165	1.49***	0.161	1.564***	0.163	1.604***	0.169
Dummy July	0.342**	0.166	0.35**	0.164	0.378**	0.174	0.449**	0.179	0.498**	0.183
Dummy August	-0.048	0.163	-0.036	0.161	-0.033	0.195	0.018	0.201	0.065	0.205
Dummy September	0.232	0.164	0.244	0.161	0.258	0.178	0.333**	0.184	0.382	0.188
Dummy October	0.479**	0.161	0.494**	0.157	0.523	0.169	0.649**	0.176	0.699**	0.181
Dummy November	0.679***	0.217	0.686***	0.214	0.736	0.206	0.843***	0.212	0.897***	0.217
Dummy December	0.317*	0.179	0.34*	0.175	0.357	0.173	0.519**	0.182	0.569**	0.187
Dummy 1932	2.171	2.022	2.01	2.046	2.329	1.907	1.876	2.001	1.745	2.013
Dummy 1933	2.316	1.912	2.136	1.936	2.314	1.864	1.313*	1.96	1.382	1.968
Dummy 1934	4.589**	2.165	4.384**	2.16	4.795**	2.223	4.339*	2.298	4.163*	2.319
May*1931 dummy	-0.642***	0.229	-0.64	0.229	-0.658**	0.243	-0.726**	0.259	-0.708**	0.261
June * 1931 dummy	-1.913***	0.298	-1.906	0.299	-1.978***	0.314	-2.114***	0.338	-2.109***	0.338

May * 1933 dummy	0.141	0.181	0.138	0.179	0.149	0.207	0.125	0.197	0.114	0.257
June * 1933 dummy	0.182	0.146	0.176	0.144	0.198	0.164	0.156	0.157	0.106	0.2
May 1933 cereals	0.044	0.308	0.04	0.307					0.052	0.279
June 1933 cereals	-0.130	0.23	-0.125	0.229					0.081	0.21
November*1931dummy	0.077	0.191	0.091	0.191	0.074	0.213	0.149	0.221	0.148	0.222
November*1933dummy	0.041	0.221	0.044	0.22	0.039	0.217	0.055	0.222	0.05	0.223
Panel level variance component					-2.483		-1.104		-1.079	
Standard deviation					0.29		0.576		0.583	
Proportion of total variance contributed by the panel level component (rho)					0.077		0.25		0.254	
Likelihood ratio test of rho=0					25.32***		26.62***		26.81***	
Chi-squared										
N	7643		7643		7643		7643		7643	
Wald Chi squared	576.22***		592.03***		415.85***		392.38***		384.43***	
Log Likelihood					-1345.88		-1356.66		-1339.39	

*** significantly different from 0 at the 1 % level; ** significantly different from 0 at the 5 % level; * significantly different from 0 at the 10 % level.

Robust standard errors clustered by towns.

Table 5. Determinants of “collective” trespassing, 1931-1934. Panel probit models.

	<i>POPULATION AVERAGED</i>		<i>Robust</i>		<i>RANDOM EFFECTS</i>			
<i>VARIABLES</i>	<i>[1] COEFF</i>	<i>STD ERROR</i>	<i>[2] COEFF</i>	<i>STD ERROR</i>	<i>[3] UNADJUSTED COEFF</i>	<i>STD ERROR</i>	<i>[4] UNADJUSTED COEFF</i>	<i>STD ERROR</i>
CONSTANT	4.179	3.822	1.497	3.342	6.157	4.73	5.542	4.458
Log (% large estates)	-0.142*	0.085	0.049	0.069	-0.129	0.104	-0.13	0.097
Population growth, 1920-1930	0.002	0.004	0.001	0.003	0.003	0.005	0.001	0.005
Log (population density)	-0.045	0.091	0.036	0.092	-0.039	0.126	-0.057	0.12
Log (elevation)	-0.036	0.136	0.05	0.104	-0.023	0.135	-0.044	0.125
Capital judicial district=1	0.539***	0.187	0.233**	0.114	0.59***	0.18	0.424**	0.181
Log (distance)	0.043	0.157	0.061	0.11	0.1	0.17	0.138	0.159
Train station = 1	-0.053	0.161	-0.089	0.157	-0.04	0.171	-0.06	0.161
Previous union in 1916=1	0.052	0.167	0.009	0.111	0.075	0.157	0.054	0.147
Cereals	0.325	0.283	-0.057	0.198	0.356	0.353	0.368	0.326
Cereals and olives	0.118	0.333	-0.211	0.202	0.146	0.335	0.157	0.31
Olives	0.133	0.319	-0.051	0.186	0.165	0.355	0.2	0.334
Dummy Jaén	-0.176	0.242	0.189	0.154	-0.321	0.208	-0.293	0.197
Dummy Seville	0.352	0.227	0.395	0.192	0.369	0.255	0.404	0.242
Log (proplandless)	-1.57*	0.866	-1.112	0.777	-2.14**	1.09	-2.048**	1.025
Log(prop landless)*1932	-0.032	0.777	0.107	0.843	-0.094	1.036	-0.223	0.989
Log(prop landless)*1933	1.459	0.949	1.973	1.402	1.618	1.096	1.316	1.061
Log(prop landless)*1934	2.419*	1.251	3.298	2.416	2.721*	1.456	2.367*	1.417
Cumulative number of invasions			0.874***	0.093			0.106**	0.048
Dummy February	-0.024	0.227	-0.044	0.313	-0.021	0.291	-0.022	0.288
Dummy March								
Dummy April	-0.539	0.388	-0.64	0.496	-0.573	0.392	-0.52	0.384
Dummy May	-0.045	0.288	-0.096	0.343	-0.037	0.325	-0.146	0.316
Dummy June	0.601***	0.223	0.629	0.275	0.712**	0.256	0.541**	0.248
Dummy July	-0.288	0.334	-0.585	0.425	-0.3	0.347	-0.269	0.347
Dummy August	-0.264	0.249	-0.494	0.376	-0.303	0.348	-0.264	0.346
Dummy September								
Dummy October	0.11	0.276	-0.109	0.328	0.164	0.279	0.21	0.275
Dummy November	0.101	0.311	-0.158	0.372	0.294	0.267	0.049	0.342
Dummy December	0.079	0.305	-0.255	0.367	0.092	0.284	0.104	0.284
Dummy 1932	0.447	3.265	-0.526	3.577	0.719	4.396	1.515	4.201
Dummy 1933	-6.312	4.001	-9.449	6.046	-6.907	4.682	-5.617	4.539
Dummy 1934	-10.467	5.41	-15.411	10.64	-11.769*	6.31	-10.115*	6.142
May*1931 dummy								
June * 1931 dummy								
May * 1933 dummy	0.494	0.444	0.695	0.561	0.373	0.547	0.639	0.542

June * 1933 dummy	0.38	0.253	0.521	0.388	0.328	0.365	0.616	0.362
May 1933 cereals	0.079	0.526	-0.067	0.655	0.409	0.57	0.143	0.548
June 1933 cereals	-0.121	0.393	-0.197	0.523	-0.152	0.38	-0.095	0.362
November*1931 dummy	0.16	0.348	0.066	0.396	0.233	0.372	0.471	0.455
November*1933 dummy	0.397	0.334	0.592	0.516	0.476	0.433	0.514	0.414
Panel level variance component								
Standard deviation								
Proportion of total variance contributed by the panel level component (rho)								
Likelihood ratio test of rho=0								
Chi-squared								
N	7643				7643			
Wald Chi squared	2718***				62.94***			
Log Likelihood								

*** significantly different from 0 at the 1 % level; ** significantly different from 0 at the 5 % level; * significantly different from 0 at the 10 % level.

Table 6

Effects of Socialist mayors on the probability of striking, 1931-1933.

Coefficients from random effects probit model.

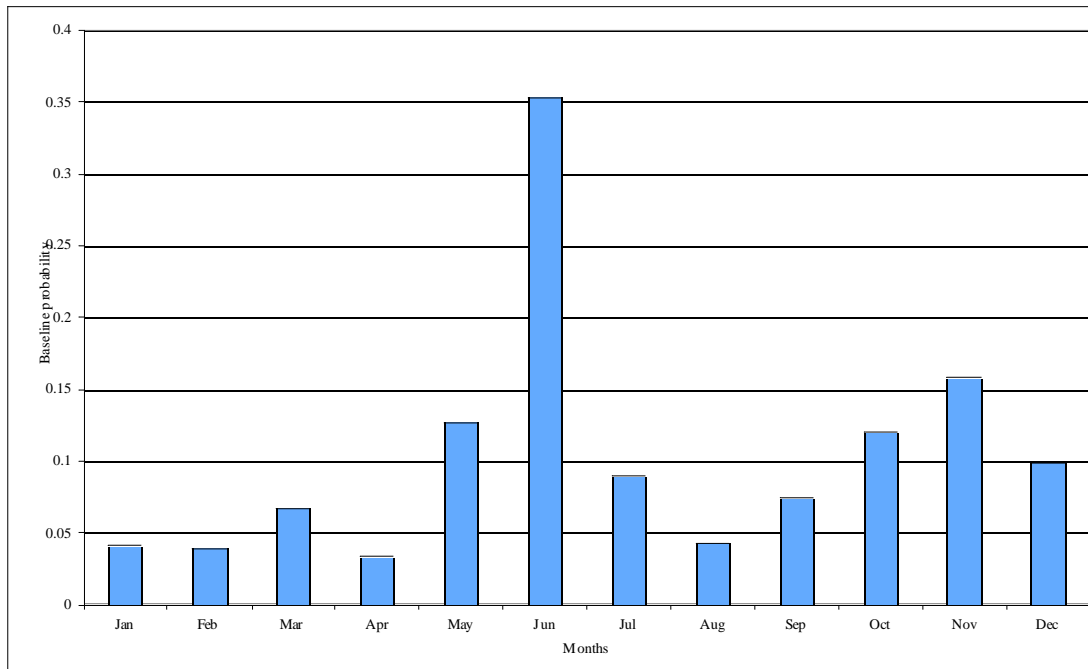
	<i>All available elections</i>		<i>Sample of closely contested elections</i>	
<i>STRIKES</i>	<i>UNADJUSTED COEFF</i>	<i>STD ERROR</i>	<i>UNADJUSTED COEFF</i>	<i>STD ERROR</i>
Socialist Mayor=1	0.022	0.221	-1.004*	0.603
Socialist mayor * post November 1933 election	0.242	0.262	0.607	0.477
N	3470		819	
<i>COLLECTIVE TRESPASSING</i>	<i>UNADJUSTED COEFF</i>	<i>STD ERROR</i>	<i>UNADJUSTED COEFF</i>	<i>STD ERROR</i>
Socialist Mayor =1	-0.132	0.391	n.a.	
Socialist mayor * post November 1933 election	-0.145	0.63	n.a.	
N	3470			

Note: * statistically significant at the 10 per cent level.

Figure 1

Probability of striking according to month.

Baseline probabilities for town with continuous variables at their means, in province of Córdoba in 1932, capital of judicial district, with a union in 1916 and no train station.



Notes: own calculations using coefficients in random effects probit regression [5] in table 4.

MAP 1 Map 1. Regions and provinces in Spain.

Source: <http://soymapas.com/category/mapa-mudos/page/6>, name of provinces and regions added using Gimp 2.6.



